

70. **THE EFFECT OF ORAL MAGNESIUM SUPPLEMENT ON PRE-ECLAMPSIA AND PERINATAL OUTCOMES IN PREGNANCY: A META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS.**

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INTRODUCTION: Magnesium is one of the most important nutritional factors that have a beneficial effect on pregnant women. Many studies evaluated the role of oral magnesium supplements as a non-pharmacological intervention for mother and neonatal protection in terms of these outcomes. There is a conflict between several clinical trials about the efficacy of oral magnesium supplements during pregnancy. Therefore, in this review, we represent class 1 evidence and address an unmet clinical need on the efficacy of different types of oral magnesium in pre-eclampsia, and prenatal outcomes in pregnant women. **METHODS:** During the preparation of this meta-analysis, we followed the PRISMA statement guidelines. A literature search of the Web of Sciences, Cochrane Central Register of Controlled Trials, and PubMed were conducted from inception until September 2022. We included randomized controlled trials (RCTs) comparing oral magnesium whether citrate, oxide, or aspartate hydrochloride with a placebo. The records of quality studies were screened and extracted. Additionally, the pre-eclampsia, preterm birth, and neonatal intensive care unit (NICU) admissions data were pooled as odds ratio (OR) in a fixed-effect model using Review Manager (v.3). Subgroup analysis was performed to investigate the efficacy of each type of oral magnesium on the outcomes. **RESULTS:** Five RCTs were included in this meta-analysis with a total of 2370 patients. The overall effect did not favor either of the two groups in terms of pre-eclampsia (OR= 0.99, 95% CI, [0.72, 1.37], p = 0.9), preterm birth (OR= 0.87, 95% CI, [0.62, 1.22], p = 0.4), and NICU admissions (OR= 1.37, 95% CI, [0.84, 2.22], p = 0.2). Based on the subgroup analysis findings, the use of oral magnesium supplements whether citrate, oxide, or aspartate hydrochloride in this population did not significantly increase or decrease the incidence of pre-eclampsia, preterm birth, and NICU admissions when compared with the control group. **CONCLUSION:** Ultimately, oral magnesium supplementation whether citrate, oxide, or aspartate hydrochloride may not have a beneficial effect on maternal and fetal outcomes during pregnancy. Therefore, the current evidence is insufficient to confirm the efficacy of oral magnesium for care practice among pregnant women. Despite that, these results need to be affirmed by major RCTs using magnesium supplements which have related to neonatal and maternal outcomes.

Key words: Magnesium; Meta-analysis; Pregnancy; Pre-eclampsia.